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EXAMINER

PIZIALI, ANDREW T

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1775

DATE MAILED: 05/02/2003

17

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/868,543

Applicant(s)

KRISKO ET AL.

Examiner

Andrew T Piziali

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 11-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 16-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 07 April 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. This application contains claims 11-15 drawn to an invention nonelected with traverse in Paper No. 12. A complete reply to the final rejection must include cancelation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Drawings

2. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on 4/7/2003 have been approved. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

4. Claims 1, 3 and 19-20 are rejected under 35 U.S.C. 102(e) as being anticipated by USPN 6,165,598 to Nelson.

Nelson discloses a coated glass article comprising a coating comprising a fluorine-doped tin oxide layer and a silica layer (Table 1, Example 4). Nelson does not limit the method of depositing the layers but does disclose that the layers are preferably applied pyrolytically

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(column 2, lines 42-43). Nelson does not specifically mention depositing the silica layer by sputtering, but considering the substantially identical coated glass article of Nelson, compared to the currently claimed coated glass article, it appears that the coated glass article of Nelson is substantially identical to the claimed coated glass article.

Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show obvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289 (Fed. Cir. 1983). Nelson either anticipated or strongly suggested the claimed subject matter. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Nelson.

Considering the substantially identical coated glass article of Nelson, compared to the currently claimed coated glass article, it appears that the coated glass article of Nelson would possess a contact angle of water on the coated exterior surface of the glass article below about 25% and would cause water on the coated exterior surface of the pane to sheet.

The Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and

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prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on applicants where rejection based on inherency under 35 U.S.C. § 102 or on prima facie obviousness under 35 U.S.C. § 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977).

5. Claims 1-2, 4 and 16-20 are rejected under 35 U.S.C. 102(e) as being anticipated by USPN 5,854,708 to Komatsu et al. (hereinafter referred to as Komatsu).

Regarding claims 1-2, 4 and 16-20, Komatsu discloses a coated glass article comprising a coating comprising a metal oxide dielectric layer and a silica layer (column 1, lines 3-10 and column 2, lines 8-44). Komatsu does not limit the method of depositing the layers but does disclose that the layers may be applied via sputtering (column 5, lines 9-15). Komatsu does not specifically mention depositing the dielectric layer pyrolytically, but considering the substantially identical coated glass article of ^{Komatsu}Nelson, compared to the currently claimed coated glass article, it appears that the coated glass article of ^{Komatsu}Nelson is substantially identical to the claimed coated glass article.

Considering that Komatsu discloses that the disclosed invention decreases the tendency of a water drop to exhibit a globular shape (column 1, lines 11-30), it appears that the coated glass article of ^{Komatsu}Nelson would possess a contact angle of water on the coated exterior surface of the glass article below about 25% and would cause water on the coated exterior surface of the pane to sheet.

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Regarding claims 2 and 4, Komatsu does not specifically mention depositing the metal oxide dielectric layer by the currently claimed pyrolytic method, but considering the substantially identical coated glass article of ^{Komatsu} ~~Nelson~~, compared to the currently claimed coated glass article, it appears that the coated glass article of ^{Komatsu} ~~Nelson~~ is substantially identical to the claimed coated glass article.

Regarding claims 16-18, Komatsu discloses that the silica layer may have a thickness of about 150 angstroms (column 3, lines 1-12).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson as applied to claims 1, 3 and 19-20 above, and further in view of USPN 5,698,262 to Soubeyrand et al. (hereinafter referred to as Soubeyrand).

Nelson discloses that the tin oxide layer may be applied onto the glass substrate by any of the conventional pyrolytic deposition methods generally recognized in the art (column 5, lines 25-32), but does not mention any specific pyrolytic deposition method. Soubeyrand discloses a pyrolytic deposition method that may be used for the production of a glass coated article having a fluorine doped tin oxide coating useful for energy efficient architectural windows, airplane or automobile windows, and a variety of optical electronic devices (column 2, lines 55-62).

Soubeyrand discloses that the method is less costly than previously disclosed pyrolytic

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deposition methods (column 2, lines 28-35). It would have been obvious to one having ordinary skill in the art at the time the invention was made to deposit the fluorine-doped tin oxide layer of Nelson by the pyrolytic deposition method disclosed by Soubeyrand, because the method is less costly than previously disclosed pyrolytic deposition methods.

8. Claims 5-10 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson as applied to claims 1, 3 and 19-20 above, and further in view of the Applicant's Disclosure.

It is axiomatic that consideration of the prior art cited by the examiner must, of necessity, include consideration of the admitted state of the art found in applicant's specification, *In re Davis*, 305 F.2d 501, 134 USPQ 256 (CCPA 1962); *In re Hedges*, 783 F.2d 1038, 228 USPQ 685 (Fed. Cir. 1986). Admitted knowledge in the prior art may be used in determining patentability of the claimed subject matter, *In re Nomiya*, 509 F.2d 566, 184 USPQ 607 (CCPA 1975).

Regarding claims 5-10 and 24-25, the current applicants disclose that "in a common automobile windshield having an outer pane of glass laminated to an inner pane of glass with a tear-resistant plastic layer, an infrared reflective coating is commonly applied to the one of the glass surfaces immediately adjacent to the plastic layer" (page 4, lines 16-19). The current applicants also disclose that a typical infrared reflective coating commonly used in low emissivity solar control films comprises a metal layer sandwiched between a pair of dielectric layers (column 9, lines 16-22). Considering that Nelson discloses that the coating may be used for vehicle windows (column 3, lines 13-21) and considering that Nelson discloses that the coating exhibits a low total reflectance and an aesthetically neutral color in the reflectance from

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the film side (abstract), it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the coating of Nelson in the windshield configuration disclosed by the current applicant with the coating of Nelson deposited on the exterior of surface of the outer pane, because the exterior location allows for the glass coated article to appear neutral in color from the exterior while allowing the article to be used as an infrared reflective windshield.

Regarding claims 6 and 10, considering the substantially identical coated glass article of Nelson in view of the Applicants Disclosure, compared to the claimed coated glass article, it appears that the coated glass article of Nelson in view of the Applicants Disclosure would possess a transmittance of at least about 70% in the visible spectrum.

Regarding claim 7, considering the substantially identical coating of Nelson, compared to the claimed coating, it appears that the coated glass article of Nelson in view of the Applicants Disclosure would possess a contact angle of water on the coated exterior surface of the glass article below about 25% and would cause water on the coated exterior surface of the pane to sheet.

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Komatsu as applied to claims 1-2, 4 and 16-20 above, and further in view of USPN 6,074,981 to Tada et al. (hereinafter referred to as Tada).

Komatsu discloses that the photocatalytic metal oxide film may comprise TiO_2 , but does not specifically mention using a doped photocatalytic metal oxide film. Tada discloses that doping a TiO_2 metal oxide film with fluorine improves the photocatalyst's reactivity (column 6, lines 41-53). It would have been obvious to one having ordinary skill in the art at the time the

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invention was made to make the photocatalytic metal oxide film of Komatsu from fluorine doped TiO_2 , as disclosed by Tada, because fluorine doping increases that photocatalyst's reactivity.

10. Claims 5-8, 10 and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komatsu as applied to claims 1-2, 4 and 16-20 above, and further in view of the Applicant's Disclosure.

Regarding claims 5-8, 10 and 21-25, the current applicants disclose that "in a common automobile windshield having an outer pane of glass laminated to an inner pane of glass with a tear-resistant plastic layer, an infrared reflective coating is commonly applied to the one of the glass surfaces immediately adjacent to the plastic layer" (page 4, lines 16-19). The current applicants also disclose that a typical infrared reflective coating commonly used in low emissivity solar control films comprises a metal layer sandwiched between a pair of dielectric layers (column 9, lines 16-22). Considering that Komatsu discloses that the coating may be used for automobile windows (column 1, lines 11-30), it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the coating of Komatsu in the windshield configuration disclosed by the current applicant with the coating of Komatsu deposited on the exterior of surface of the outer pane, because the exterior location allows for the glass coated article to be anti-fog forming while allowing the article to be used as an infrared reflective windshield.

Regarding claims 6 and 10, considering the substantially identical coated glass article of Komatsu in view of the Applicants Disclosure, compared to the claimed coated glass article, it appears that the coated glass article of Komatsu in view of the Applicants Disclosure would possess a transmittance of at least about 70% in the visible spectrum.

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Regarding claim 7, considering that Komatsu discloses that the disclosed invention decreases the tendency of a water drop to exhibit a globular shape (column 1, lines 11-30), it appears that the coated glass article of Nelson would possess a contact angle of water on the coated exterior surface of the glass article below about 25% and would cause water on the coated exterior surface of the pane to sheet.

Regarding claims 21-23, Komatsu discloses that the silica layer may have a thickness of about 150 angstroms (column 3, lines 1-12).

11. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Komatsu in view of the Applicant's Disclosure as applied to claims 5-8, 10 and 21-25 above, and further in view of USPN 6,074,981 to Tada.

Komatsu discloses that the photocatalytic metal oxide film may comprise TiO_2 , but does not specifically mention using a doped photocatalytic metal oxide film. Tada discloses that doping a TiO_2 metal oxide film with fluorine improves the photocatalyst's reactivity (column 6, lines 41-53). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the photocatalytic metal oxide film of Komatsu from fluorine doped TiO_2 , as disclosed by Tada, because fluorine doping increases that photocatalyst's reactivity.

Response to Arguments

12. Applicant's arguments filed 4/7/2003 have been fully considered but they are not persuasive.

The applicant asserts that the current inventors have discovered that sputter applied silica films have distinct advantages over pyrolytically applied silica films. The applicant cites page 6, lines 4-6, and page 28, line 1 through page 29, line 16, of the current specification, as

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providing evidence of such a distinction. The examiner respectfully disagrees. The examiner contends that page 6, lines 4-6, merely speaks to the disadvantages of pyrolytically coated glass articles compared to untreated glass articles, while page 28, line 1 through page 29, line 16, merely speaks to advantages of a silica film/pyrolytically applied dielectric film/glass article compared to a pyrolytically applied dielectric film/glass article. The examiner contends that the applicant has not demonstrated a patentable distinction between a sputter applied silica film and a pyrolytically applied silica film.

The examiner asserts that the current specification fails to teach or suggest that a pyrolytically applied silica film is patentably distinct over a sputter applied silica film. The examiner cites page 15, lines 5-7, and page 16, lines 19-28, of the current specification, which states that "one preferred manner" in which the silica layer may be applied to the outer surface of the pyrolytic coating is via sputtering. The examiner asserts that this section of the current specification discloses that the applicant has conceded that the outer silica layer need not be applied by sputtering, rather, merely that the preferred manner of applying the outer silica layer is via sputtering.

The examiner directs the applicant to USPN 5,633,208 to Ishikawa. Ishikawa discloses that it is known that a flat surface (a low contact angle surface) can be obtained by coating a solution having a low wettingness (contact angle) on the surface of an article, because most of the solution is deposited in valleys instead of on the ridges (column 2, lines 4-9). Ishikawa discloses that a reduced wettingness (contact angle) silica film can be obtained by sputtering with argon or by increasing the flow rate of a silane gas when depositing a silica film by means of CVD using oxygen and silane gas (column 2, lines 29-38).

Conclusion

13. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T Piziali whose telephone number is (703) 306-0145. The examiner can normally be reached on Monday-Friday (7:00-3:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (703) 308-3822. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

g. B.

atp
April 25, 2003

Andrew T Piziali
Examiner
Art Unit 1775

Deborah Jones
DEBORAH JONES
SUPERVISORY PATENT EXAMINER